

50PK750 (50R1 Panel) CIRCUIT INTERCONNECT DIAGRAM

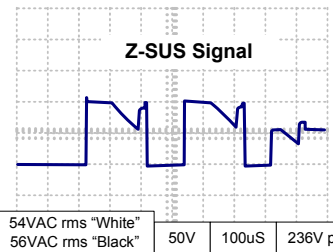
NOTE: Diode tests are conducted with the board disconnected

SMPS Test – Unplug P813 to Main board.
Use two (100W) light bulbs in series between Vs and Gnd to place a load on the SMPS.
Apply AC, all voltage should run.
See “Auto Gen” on the Control board to perform a Panel Test.
If all supplies do not run when A/C is applied, disconnect P811 and P812 to isolate the excessive load.

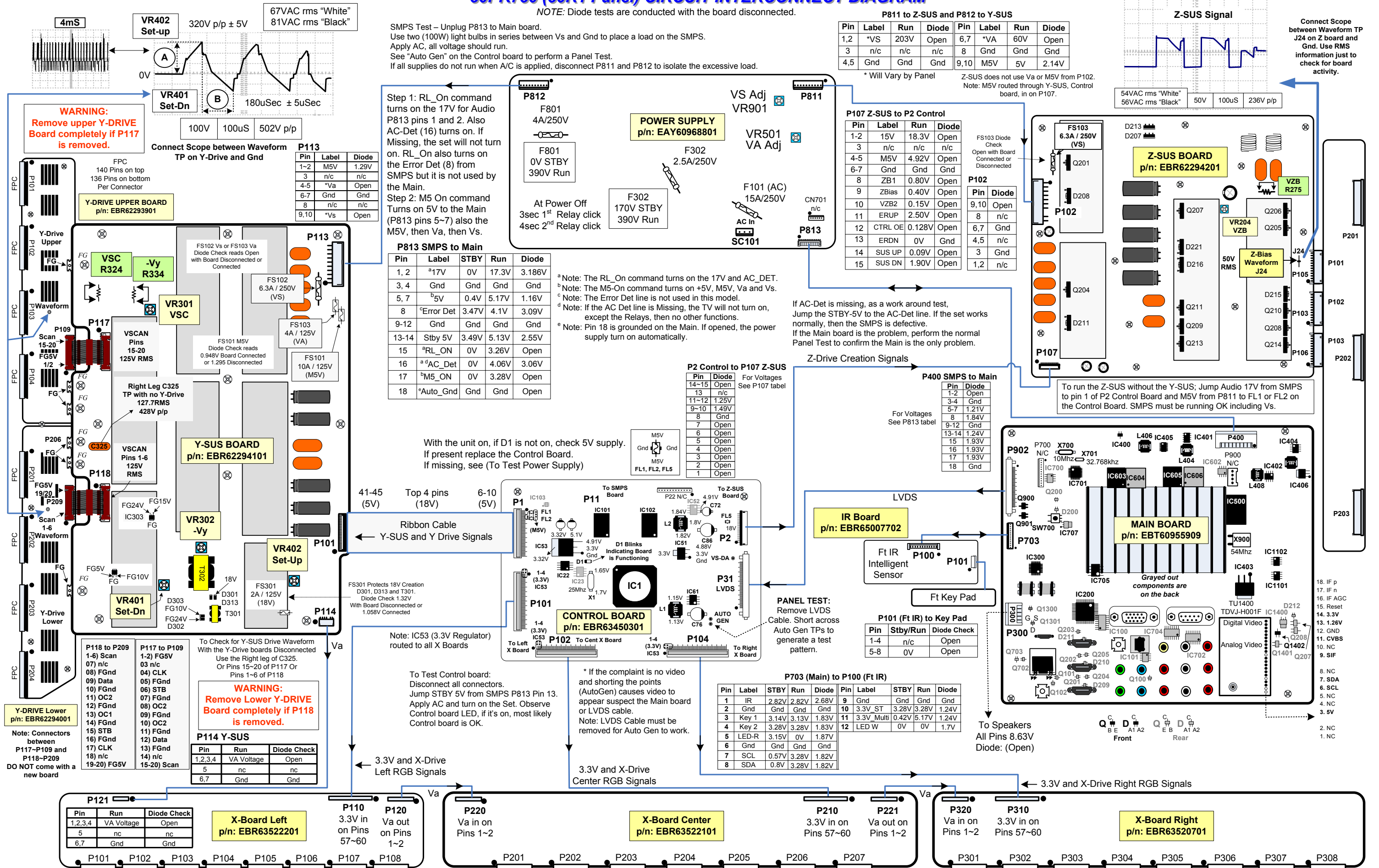
Pin	Label	Run	Diode	Pin	Label	Run	Diode
1,2	*VS	203V	Open	6,7	*VA	60V	Open
3	n/c	n/c	n/c	8	Gnd	Gnd	Gnd
4,5	Gnd	Gnd	Gnd	9,10	M5V	5V	2.14V

* Will Vary by Panel















Z-SUS does not use Va or M5V from P102.
Note: M5V routed through Y-SUS, Control board, in on P107.































**Connect Scope
between Waveform TP
J24 on Z board and
Gnd. Use RMS
information just to
check for board
activity.**



50PK750 Main Board (Front Side) Component Voltages

IC400 3.3V_NEC_ST Pin Regulator  [1] Gnd [2] 3.3V [3] 5V	IC402 D3.3V / +3.3V Pin Regulator  [1] 5V [2] 3.3V [3] 3.3V [4] 7.48V [5] 3.3V [6] 0.8V [7] 5V [8] Gnd	IC404 7V (to IC405) Pin Regulator  [1] 17.1V [2] 7.11V [3] 7.11V [4] 11.95V [5] 3.3V [6] 0.8V [7] 5.0V [8] Gnd	IC405 D1.2V / A1.2V Pin Regulator  [1] Gnd [2] 4.99V [3] Gnd [4] 1.26V [5] 0V [6] n/c [7] 6.17V [8] 5.0V [9] 5.0V [10] 5.0V [11] 1.27V [12] Gnd [13] 3.3V [14] 0.83V	IC705 NVRAM Pin  [1] Gnd [2] Gnd [3] Gnd [4] Gnd [5] 3.28V [6] 3.28V [7] Gnd [8] 3.28V	IC1102 USB2 5V Pin  [1] Gnd [2] 5.14V [3] 5.14V [4] 0.04V [5] 3.28V [6] 4.94V [7] 4.94V [8] n/c	Q901 SDA to LVDS Pin FET  [G] 3.276V [S] 3.289V [D] 3.28V
IC401 DDR 1.8V Pin Regulator  [1] 6.75V [2] 5.0V [3] 1.85V [4] Gnd [5] Gnd [6] 2.356V [7] 0.9V [8] 1.0V [9] 2.4V [10] 3.3V	IC403 A2.5V Pin Regulator  [1] 1.26V [2] 2.5V [3] 5V			IC1101 USB1 5V Pin  [1] 5.0V [2] Gnd [3] 3.2V [4] 0V [5] 0V [6] 5.1V [7] 0V [8] 3.28V	Q701 RS232 IR Pin Buffer  [B] 0.574V [E] Gnd [C] 0V	Q1402 Video Buffer Pin  [B] 2.05V [E] 2.75V [C] Gnd
			IC406 5V (Tuner) Pin Reg  [1] 7.13V [2] 5V [3] 7V		Q900 SCL to LVDS Pin FET  [G] 3.28V [S] 3.28V [D] 3.28V	

50PK750 Main Board (Back Side) Component Voltages

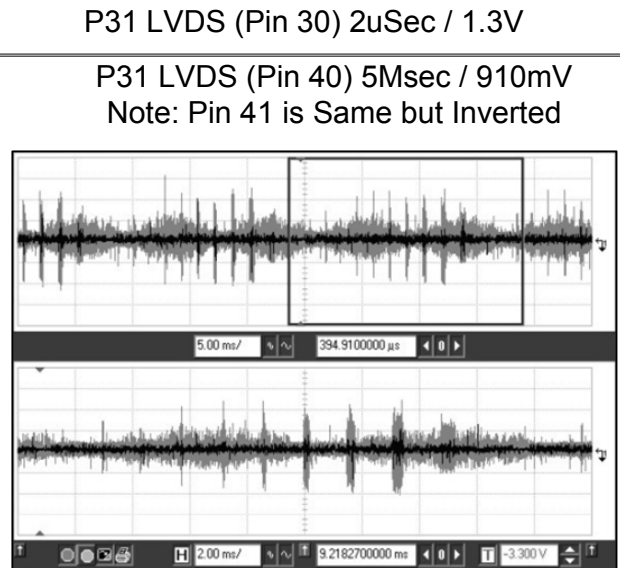
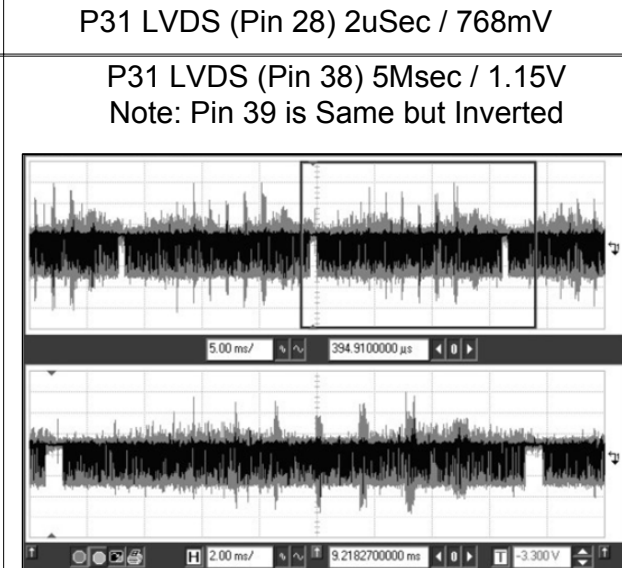
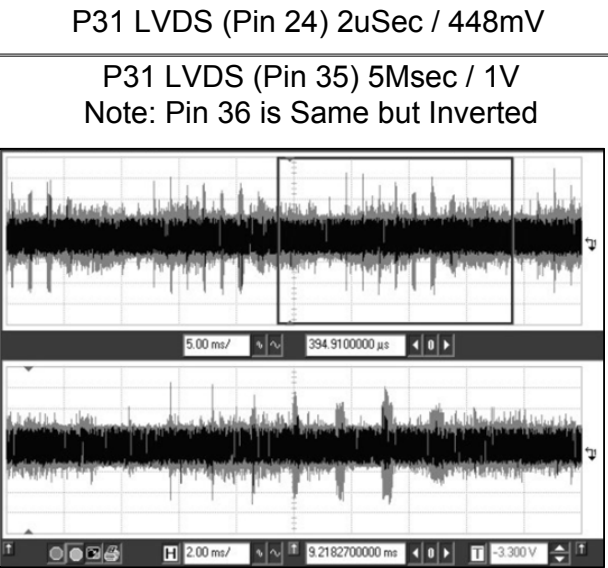
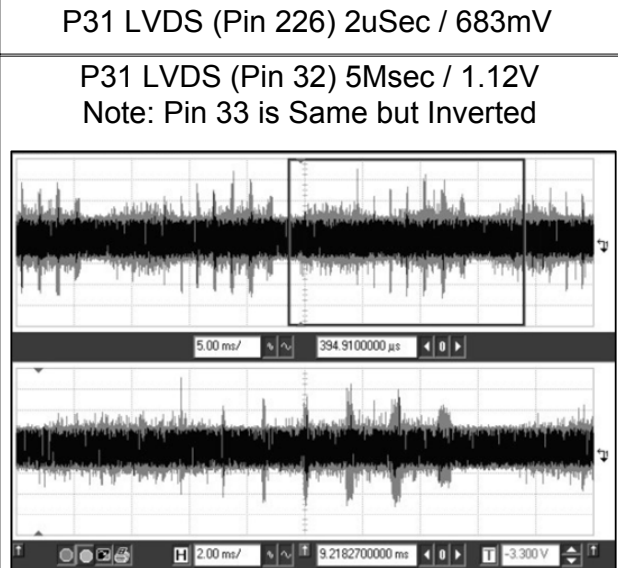
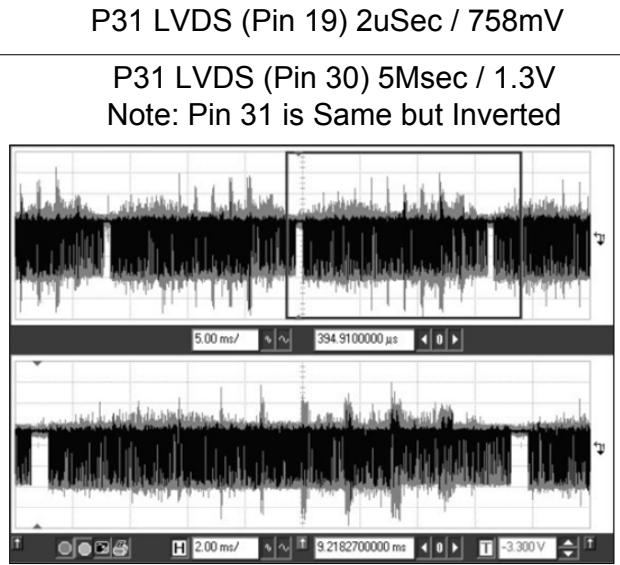
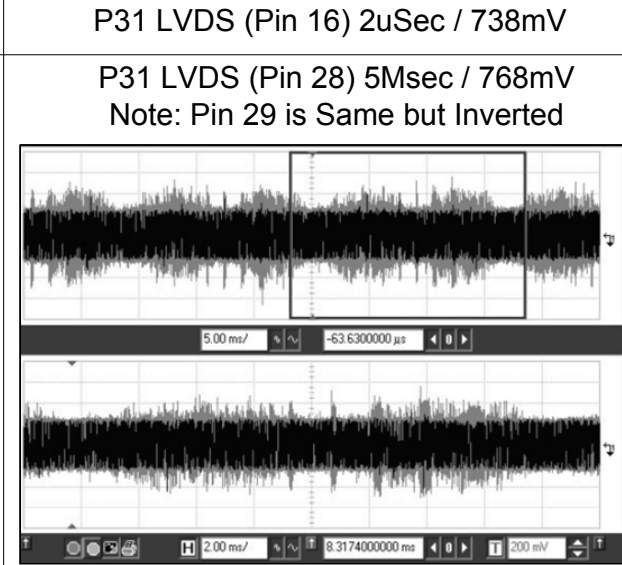
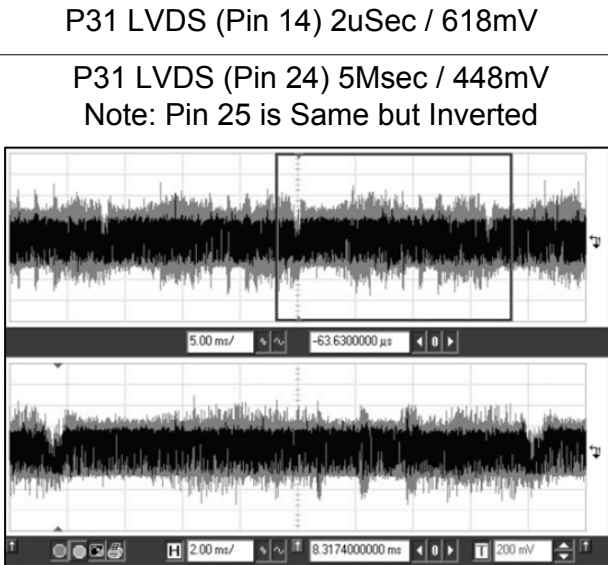
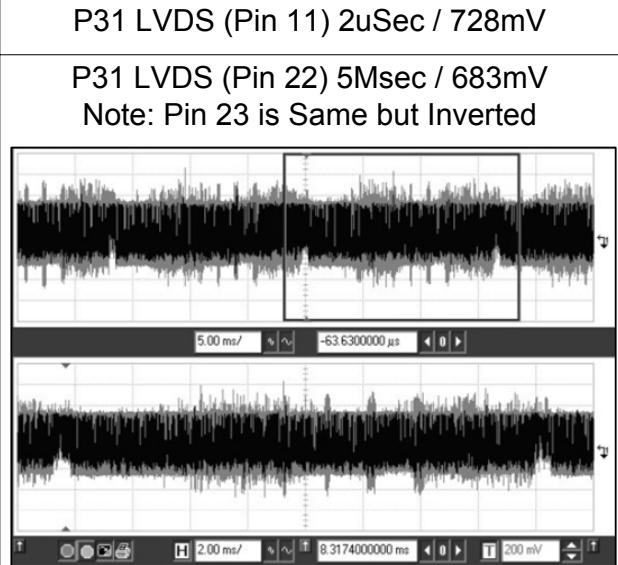
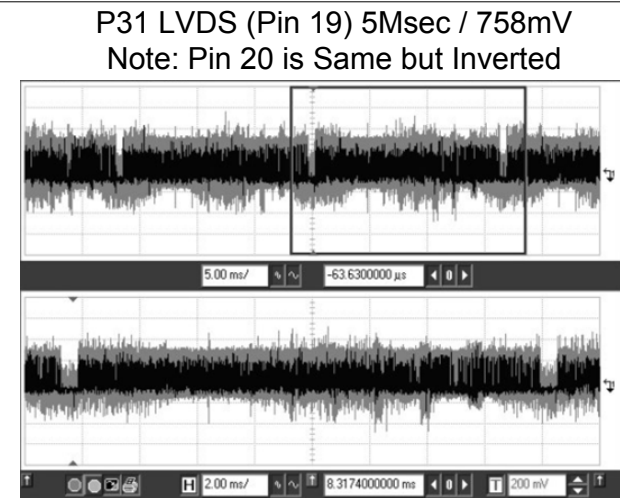
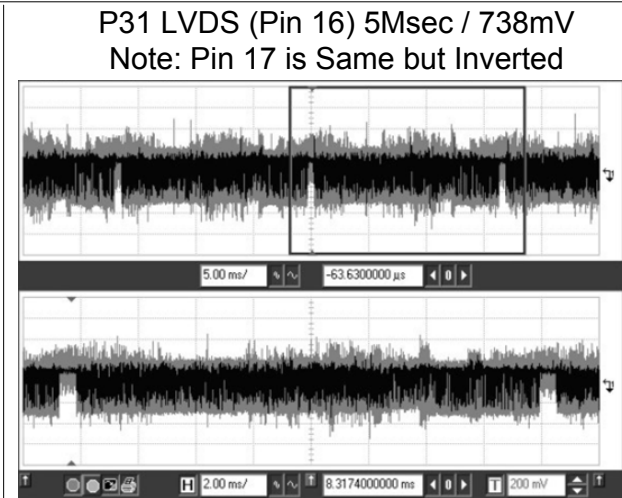
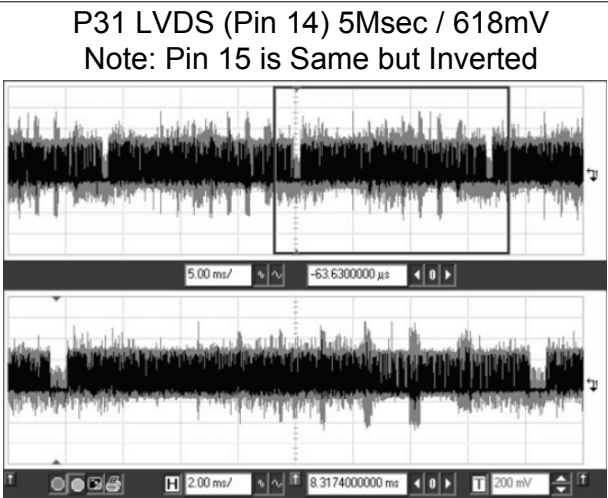
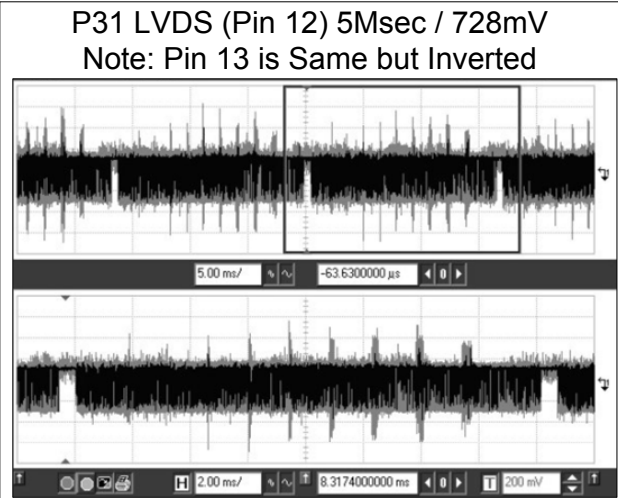
IC100 RS232 Pin Control  [1] 1.65V [2] 1.65V [3] 4.56V [4] 1.65V [5] 1.65V [6] 4.66V [7] Gnd [8] n/c [9] 1.657V [10] 0V [11] 4.5V [12] 0V [13] 1.657V [14] 5.12V	IC700 Micro Pin EEPROM  [1] Gnd [2] Gnd [3] Gnd [4] Gnd [5] 3.3V [6] 3.3V [7] Gnd [8] 3.3V	IC704 RS232 Pin Selector  [1] 3.26V [2] 3.26V [3] n/c [4] n/c [5] n/c [6] Gnd [7] n/c [8] Gnd [9] Gnd [10] 4.99V [11] 4.99V [12] 0.88V [13] 3.3V [14] 3.3V [15] 3.3V [16] 5V	Q100 RGB W/P Pin  [B] 0V [C] 5.12V [E] Gnd	Q203 Hot Swap Pin HDMI3  [B] 4.27V [C] 0V [E] Gnd	Q702 IR Out Pin 2nd Buffer  [B] 0V [C] 3.32V [E] Gnd	D209 HDMI Hot Swap Pin Routing HDMI1  [A1] 5.13V [A2] 0.15V [C] 4.67V
			Q101 Wired IR Pin 1st Buffer  [B] 0V [C] 3.33V [E] Gnd	Q204 Hot Swap Pin HDMI1  [B] 0V [C] 4.26V [E] Gnd	Q703 IR Out Pin 1st Buffer  [B] 0.62V [C] 0V [E] Gnd	D210 HDMI Hot Swap Pin Routing HDMI2  [A1] 5.13V [A2] 0.15V [C] 4.67V
IC101 RS232 Pin EEPROM  [1] Gnd [2] Gnd [3] Gnd [4] Gnd [5] 4.325V [6] 4.8V [7] 5.12V [8] 5.0V	IC702 RS232 Pin Selector  [1] 3.34V [2] 5.78V [3] 0V [4] 0V [5] 0.2V [6] (-5.68V) [7] 5.78V [8] Gnd [9] n/c [10] Gnd [11] 3.3V [12] 0V [13] 0V [14] (-5.68V) [15] Gnd [16] 3.3V	IC707 Reset IC Pin  [1] 3.3V [2] Gnd [3] 3.31V	Q200 CEC Remote Pin HDMI  [B] 2.59V [G] 3.3V [S] 2.58V [D] 3.25V	Q206 Hot Swap Pin HDMI3  [B] 0V [C] 4.26V [E] Gnd	Q1300 Wired IR Pin 1st Buffer  [E] Gnd [B] 0V [C] 17V	D211 HDMI Hot Swap Pin Routing HDMI3  [A1] 5.13V [A2] 0.15V [C] 4.67V
IC602 DDR_VTT Pin Regulator  [1] Gnd [2] 3.3V [3] 0.43V [4] 0.94V [5] 1.857 [6] 3.3V [7] 1.86V [8] 0.93V		IC1400 Reset IC Pin  [1] 0V [2] 1.29V [3] 3.27V	Q201 Hot Swap Pin HDMI1  [B] 4.27V [C] 0V [E] Gnd	Q207 Hot Swap Pin HDMI4  [B] 4.28V [C] 0V [E] Gnd	Q1301 Wired IR Pin 2nd Buffer  [G] 17V [S] 17.1V [D] 0V	D212 HDMI Hot Swap Pin Routing HDMI4  [A1] 5.13V [A2] 0.15V [C] 4.67V
			Q202 Hot Swap Pin HDMI2  [B] 4.27V [C] 0V [E] Gnd	Q208 Hot Swap Pin HDMI4  [B] 0V [C] 5V [E] Gnd	Q1401 SIF Buffer Pin  [B] 0.165V [E] 0.83V [C] Gnd	D200 HDMI CEC Limiter Pin  [A1] 0V [A2] 3.31V [C] 3.18V

50PK750 LVDS
P1 WAVEFORMS

Control	Main
1	51
2	50
3	49
4	48
5	47
6	46
7	45
8	44
9	43
10	42
11	41
12	40
13	39
14	38
15	37
16	36
17	35
18	34
19	33
20	32
21	31
22	30
23	29
24	28
25	27
26	26
27	25
28	24
29	23
30	22
31	21
32	20
33	19
34	18
35	17
36	16
37	15
38	14
39	13
40	12

NOTE: LVDS P31 Information
There are actually 20 pins carrying Video 4 pins are carrying clock signals to the Control board. With 1080P, pins 35 and 36 would have signals present.

WAVEFORMS:
Waveforms taken using 1080P SMTP Color Bar input. All readings give their Time Base related to scope settings.



P31 LVDS (Pin 22) 2uSec / 683mV

P31 LVDS (Pin 24) 2uSec / 448mV

P31 LVDS (Pin 28) 2uSec / 768mV

P31 LVDS (Pin 30) 2uSec / 1.3V



P31 LVDS (Pin 32) 2uSec / 1.12V

P31 LVDS (Pin 35) 2uSec / 1V

P31 LVDS (Pin 38) 2uSec / 1.15V

P31 LVDS (Pin 41) 2uSec / 910mV